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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,825	10/30/2003	Masanori Suzuki	2003_1436A	7180

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EXAMINER

NGUYEN, SIMON

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,825

Applicant(s)

SUZUKI ET AL.

Examiner

SIMON D. NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12,13,15-17,23,25,26 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12,13,15-17,23,25,26 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to label (name) components in drawings for those who skilled in the art to understand what components involved without consulting to the SPEC.

Claim Objections

2. Claims 12 and 15 are objected to because of the following informalities: claims 12 and 15 cannot depend upon claims 11 and 14, respectively, since claims 11 and 14 have been cancelled (not having selected). Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-10, 12, 16-17, 23, 25-26, 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawyer (2003/0025841).

Regarding claim 1, Sawyer discloses a television tuner (abstract, fig.6), comprising: an input terminal (101) for receiving a high frequency signal; a filter (106) coupled to the input terminal; a mixer (image mixer of fig.6) having an input for receiving a filter's output and an input for receiving a variable LO (114); and an output terminal (120) coupled to an output of the mixer, wherein the mixer is formed of an image rejection mixer (fig.6), and the filter (106) has a moderated damping characteristic with respect to a frequency when the image rejection mixer reduces the image (fig.6, paragraphs 82-85, 87).

Regarding claim 31, this claim is rejected for the same reason as set forth in claim 1.

Regarding claims 2-3, Sawyer further discloses an amplifier (107) disposed between the filter and the mixer, wherein the amplifier and the mixer are inter-coupled in balance (matching) (fig.6, paragraphs 84-85).

Regarding claim 4, Sawyer further discloses a second filter (109), wherein the second filter is a single tuning circuit (single channel filter) (paragraph 83).

Regarding claim 5, Sawyer further discloses an input filter (a very dark solid line coming from process control unit 131) disposed between the input terminal and the high frequency amplifier (fig.6), wherein the input terminal is formed of a single tuning circuit (the same control line coming from process control unit 131 forms a single tuning line (very dark solid line) for all components in the circuit) (fig.6).

Regarding claims 6, 26, Sawyer further discloses a step-to-step filter (109) disposed between the amplifier and the mixer, since the filter 109 passes frequencies in

a selected channel and a few adjacent channel (channel step), which is considered as a fixed filter (paragraph 83).

Regarding claims 7-9, Sawyer further discloses the filter 109 as a high-pass filter (band-pass type with a center frequency between 1.1 and 1.4 GHz), a low-pass filter (only a selected channel), and a band-pass filter (paragraph 83).

Regarding claims 10, Sawyer in a prior art, discloses a plurality of filter having a different cutoff frequency and can be switched between the filters (figs.2, 4).

Regarding claim 12, Sawyer, in the prior art, further discloses the amplifier is a bipolar transistor (402 of fig. 4).

Regarding claim 16, Sawyer further discloses a third harmonic frequency (paragraphs 15).

Regarding claim 17, Sawyer further discloses the frequency only passes a selected frequency which means can not pass any frequency higher than it desired for (paragraph 82), not higher than a third harmonic frequency (paragraph 15).

Regarding claim 23, Sawyer further discloses an amplifier (103) disposed between the input terminal and the filter.

Regarding claim 25, Sawyer further discloses a dual or doubling tuning circuit (fig.6).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawyer (2003/0025841) in view of Vorenkamp et al. (7,092,043).

Regarding claim 13, Sawyer further discloses the amplifier and the mixer formed in an integrated circuit (fig.6). It should be noted that the amplifier and the mixer as taught by Sawyer having a transistor, which is known to those skilled in the art. However, Sawyer does not specifically disclose so.

Vorenkamp discloses a television tuner wherein an amplifier and an image reject mixer are formed by transistor in an integrated circuit (figs. 52-54, 56). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Sawyer, modified by Vorenkamp in order to have a clearer picture, less weight in comparison to a tube television design.

7. Claims 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawyer (2003/0025841) in view of Kitaguchi (6,594,477).

Regarding claim 15, Sawyer does not specifically disclose that the mixer is a bipolar transistor.

It should be noted that, the television tuner as taught by Sawyer is a bipolar transistor, which is known to those skilled in the art. However, Sawyer does not specifically disclose so.

Kitaguchi discloses a TV tuner having a bipolar- transistor mixer (T151, T171 of fig.19). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Sawyer, modified by Kitaguchi in order to have clearer picture, as well less weight than a tube television tuner.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Vorenkamp et al. (7,092,043) discloses a television tuner (abstract, fig.53-4,56), comprising: an input terminal (from an antenna) for receiving a high frequency signal (50 to 800 MHz); a filter for coupling to the input terminal; a mixer having an input for receiving a filter's output and an input for receiving a variable LO; and an output terminal coupled to an output of the mixer, wherein the mixer is formed of an image rejection mixer, and the filter (106) has a moderated damping characteristic with respect to a frequency when the image rejection mixer reduces the image (figs. 52-54, 56, column 57 line 54 to column 59 line 54, column 60 line 52 to column 61 line 67, abstract); Birleson et al. (7,079,195) discloses a tuner having limitations as claimed in independent claims 1 and 31 of the application (figs.1-4, column 7 line 57 to column 8 line 57, column 10 lines 15-67).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-

7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
600 Dulany, Alexandria, VA 22314

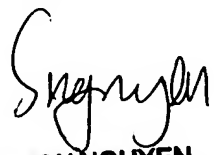
Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Hand-delivered response should be brought to Customer Service Window located at the Randolph Building, 401 Dulany, Alexandria, VA, 22314.

Simon Nguyen

August 28, 2006


SIMON NGUYEN
PRIMARY EXAMINER